

Attachment 5: Work Plan

County-Wide Groundwater Elevation Monitoring Program Local Groundwater Assistance Program Grant Application

Project Summary

Many of the 91 Bulletin 118 groundwater basins located in the County of San Bernardino are not currently being monitored under the California State Groundwater Elevation Monitoring (CASGEM) program. Mojave Water Agency (MWA) has taken the lead to coordinate with the other CASGEM-reporting agencies to develop a monitoring plan for the unmonitored basins within the County, in order to bring the entire county into compliance with CASGEM. **Figure 5** illustrates the location of the monitored and unmonitored Bulletin 118 groundwater basins relative to San Bernardino County boundaries and CASGEM reporting agencies.

If awarded, the grant funds would be used to pay a consultant to work collaboratively with Mojave Water Agency (MWA), other water agencies, and the County to conduct the necessary work to comply with CASGEM for all groundwater basins within the county.

Purpose and Goal

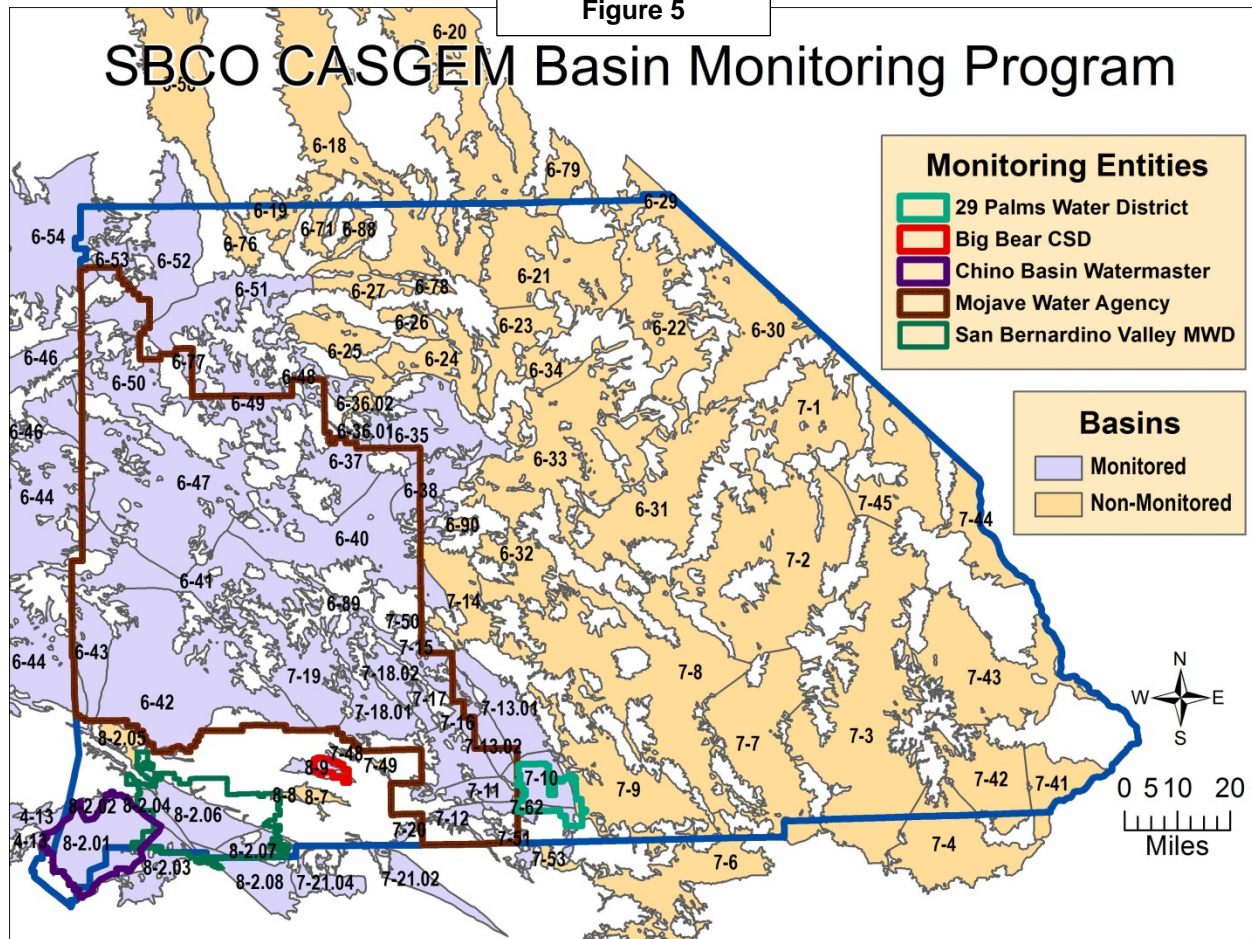
The goal of this project is to bring all groundwater basins within San Bernardino County (SBC) into compliance with the CASGEM program. This project will improve groundwater management in the County by informing local agencies and the state of the health of groundwater levels in each of the basins within the County.

Objectives

This project will accomplish the following specific objectives:

- Evaluate the unmonitored groundwater basins with the County and determine whether material water use is occurring in each. Determine if each basin falls under regular monitoring or is eligible for alternate monitoring.
- Establish monitoring program for basins with material water use needing regular monitoring.
- Prepare reports for basins that qualify for alternate monitoring.
- Prepare county-wide CASGEM monitoring plan, including entities responsible for continued monitoring and reporting.
- Review the San Bernardino County Groundwater Ordinance for consistency with CASGEM and Groundwater Management Planning law, and provide recommendations for potential revisions or updates.

Figure 5



Note: basins depicted as "monitored" or "non-monitored" in Figure 5 are based upon MWA's preliminary evaluation of groundwater basins and CASGEM complying agencies. Some of the basins shown as "monitored" that fall within CASGEM reporting agencies' boundaries may still need additional monitoring coverage in order to adequately comply with CASGEM.

Work Plan Overview

This work plan describes the specific tasks that will be conducted to accomplish the goal and objectives of the project. Work products will include individual CASGEM-compliant monitoring reports for each of the basins and a countywide monitoring plan which outlines how future monitoring and reporting will be conducted by the stakeholders. Tasks 1 through 4 are specifically for CASGEM compliance. Task 5 was included to evaluate the County's existing groundwater ordinance for improvements and consistency with CASGEM and Groundwater Management Planning law.

Most of the unmonitored basins within the County are in remote, sparsely populated desert watersheds. It is anticipated that most of the basins will qualify for "Alternate Monitoring" rather than "Regular Monitoring" under CASGEM. Alternate monitoring is allowed under Water Code Section 10932, whereby direct groundwater elevation monitoring is not required if one of the following conditions is met:

1. Groundwater elevations are unaffected by land use activities or planned land use activities, or naturally occurring total dissolved solids within the groundwater preclude the use of that water.
2. It is underlying land that is wholly owned or controlled, individually or collectively, by state, tribal, or federal authorities, and groundwater monitoring information is not available or was requested from, but not provided by, the state, tribal, or federal authorities.
3. It is underlying an area where geographic or geologic features make monitoring impracticable, including, but not limited to, a basin or subbasin that is inaccessible to well-drilling equipment.

Each basin will be evaluated to determine whether regular or alternate monitoring is required.

WORK PLAN OUTLINE	
Task 1: Evaluate Groundwater Basins Not Currently Monitored	
1.1	Evaluate existing CASGEM Coverage within SBC
1.2	Identify which Basins qualify for Alternate Monitoring and those that do not
1.3	Identify Wells as Candidates for Monitoring Including Well Site Recon as Appropriate
Task 2: Establish Monitoring Program for Basins with Water Use	
2.1	Identify, screen, and select wells in each (non-Alternate) basin for groundwater level measurements
2.2	Identify and coordinate with groundwater-using entities where possible to set up monitoring and data sharing agreements
2.3	Establish an efficient monitoring route and schedule appropriate for semiannual monitoring
Task 3: Alternate Monitoring Reports	
3.1	Perform data analysis and remote sensing methodologies to justify Alternate Basin Monitoring
3.2	Generate CASGEM-compliant reports, signed by a licensed professional geologist, for each Alternate Basin using an existing report format
3.3	Submit report for each Alternate Basin to DWR for approval
Task 4: Monitoring Plan	
4.1	Generate a comprehensive report detailing the CASGEM Monitoring Plan using an existing report format
4.2	Submit Monitoring Plan to DWR for approval
Task 5: Review the San Bernardino County Groundwater Ordinance	
5.1	Review the SBC Groundwater Ordinance and how it relates to CASGEM
5.2	Provide comments and suggestions to SBC how the Ordinance

Task 1: Evaluate Groundwater Basins Not Currently Monitored

1.1 Evaluate existing CASGEM Coverage within SBC

The first step to developing a CASGEM-compliant monitoring program is to identify and then evaluate the conditions in the unmonitored basins in San Bernardino County (SBC). Basins that are already monitored by a CASGEM Monitoring Entity will not be considered further for purposes of this study. The unmonitored basins will be evaluated and any and all water use activities will be quantified.

Deliverable:

- Informal Summary Report of findings for review/comment by Stakeholders.

1.2 Identify which Basins qualify for Alternate Monitoring and those that do not

After a preliminary evaluation of all the un-monitored basins identify those basins which qualify for Alternative Monitoring. The Alternate Monitoring determination shall be done in cooperation with participating monitoring entities and in accordance with California Water Code Sections 10927, 10932, and 10933. A separate report shall be written for each basin which qualifies for alternate monitoring following an existing accepted report format and stamped/signed by a Professional Geologist or Hydrogeologist.

Deliverable:

- Informal Summary Report of findings for review/comment by Stakeholders (combine with deliverable from *Task 1.1*).

1.3 Identify Wells as Candidates for Monitoring Including Well Site Recon as Appropriate

All basins not qualifying for Alternate Monitoring require physical well measurements on a semiannual or greater frequency. Within each basin requiring monitoring, wells must be located for measuring. Preliminary office investigations using the USGS National Water Information System (NWIS) will help to identify potential monitoring well candidates in each basin. Any known significant water users within the basin should also be considered as a potential source for locating wells to monitor. Wells must be identified that are freely accessible for water level measurements. Wells chosen as candidates for monitoring should be well documented.

Deliverable:

- Informal Summary Report listing wells located and methodologies used. This documentation should include detailed descriptions, photographs, GPS coordinates (to facilitate future site/monitoring visits), etc.

Task 2: Establish Monitoring Program for Basins with Water Use

California Water Code Section 10931 states that “the department shall work cooperatively with each monitoring entity to determine the manner in which groundwater elevation information should be reported.” Measuring instruments and reporting frequency shall be determined cooperatively between the monitoring entities, DWR, and the consultant's recommendation as part of this study. The ultimate goal of this study is to establish an efficient and comprehensive monitoring program for all of San Bernardino County that will consist of a cooperative coalition of interested parties.

2.1 Identify, screen, and select wells in each (non-Alternate) basin for groundwater level measurements

Wells shall be selected from the candidates identified in Task 1.3 that will provide the best basin-wide representation of groundwater levels. The number of specific wells identified for each basin shall be determined cooperatively between the interested parties.

Deliverable:

- Recommendation for wells to be utilized in the monitoring programs for each basin, including rationale for choosing wells.

2.2 Identify and coordinate with groundwater-using entities where possible to set up monitoring and data sharing agreements

Water users of consequence within each basin should be contacted and agreements made for cooperative monitoring and data sharing arrangements made where possible. In basins where no significant water using entities exist or they are unwilling/unable to perform monitoring, wells must be identified for monitoring by the SBC CASGEM Entities funding this study.

Deliverables:

- Initial recommendation of equitable distribution of monitoring and reporting responsibilities among CASGEM reporting agencies to cover CASGEM compliance for all currently-unmonitored basins.
- Prepare draft monitoring/reporting and data sharing agreements for review by stakeholders

2.3 Establish an efficient monitoring route and schedule as appropriate for semiannual monitoring

Where cooperative monitoring arrangements with local water-users cannot be made the SBC CASGEM Entities will monitor the wells selected in Task 2.1. These wells, in all the various basins, shall be organized into a monitoring route and schedule that will maximize time-resource efficiency.

Deliverable:

- In coordination with *Task 2.2*, prepare draft monitoring routes and schedules.

Task 3: Alternate Monitoring Reports

Write reports using an existing format that will be approved by DWR for the Basins selected in Task 1.2.

3.1 Perform data analysis and remote sensing methodologies to justify Alternate Basin Monitoring

Analyze existing data for Alternate Monitoring. This will include:

- Aerial photography
- Census data
- Parcel Data
- Well permits, well logs, & EIRs
- Water Use
- Other data or information as appropriate

Deliverables:

- Comprehensive analysis of each basin describing qualification for Alternate Monitoring, including estimate of water use. Water use calculations should be contained in a single database or spreadsheet in a format that can be updated by the CASGEM monitoring agencies with new data for future reporting.
- Informal Summary Report of findings for review/comment by Stakeholders.

3.2 Generate CASGEM-compliant reports, signed by a licensed professional geologist, for each Alternate Basin using an existing report format

Each basin submitted for Alternate Monitoring requires a stand-alone report signed/stamped by a licensed professional geologist. A report will be generated following an existing template that summarizes the finding of Task 3.1

Deliverable:

- Formal Alternate Monitoring Report for each Basin.

3.3 Submit report for each for each Alternate Basin to DWR for approval

Each Alternate Monitoring Report will be submitted to DWR for approval. Make revisions as needed per direction from DWR.

Deliverables:

- Submit reports to DWR and coordinate with staff to receive comments.
- Revise reports from Task 3.2 as appropriate for each Alternate Basin.

Task 4: Monitoring Plan

The created in this study will be detailed in a Report submitted to DWR and uploaded to the CASGEM Online System.

4.1 Generate a comprehensive report detailing the CASGEM Monitoring Plan using an existing report format

DWR requires a Monitoring Plan be submitted by all CASGEM Monitoring entities. A document summarizing the organization of this report is attached herein and also available online.
(<http://www.water.ca.gov/groundwater/casgem/pdfs/CASGEM%20Monitoring%20Plan%20Summary.pdf>)

In addition, examples of Monitoring Plans already accepted by DWR are available on the CASGEM Website.

Deliverable:

- Draft CASGEM Monitoring Plan summarizing the work conducted in Tasks 1 through 3, including a summary of the findings and monitoring plan for each basin in the program.

4.2 Submit Monitoring Plan to DWR for approval

Ultimately, the Monitoring Plan will be reviewed and accepted by DWR.

Deliverables:

- Submit Draft CASGEM Monitoring Plan to DWR and coordinate with staff to receive comments.
- Revise Monitoring Plan as appropriate, and prepare and submit final Plan to DWR.

Task 5: Review the San Bernardino County Groundwater Ordinance

Perform a critical review of the SBC Groundwater Ordinance.

5.1 Review the SBC Groundwater Ordinance and how it relates to CASGEM

Upon completion of this study perform a detailed critical review the SBC Groundwater Ordinance and how it relates (or does not) to CASGEM and State Groundwater Management Planning law.

Deliverable:

- None.

5.2 Provide comments and suggestions to SBC on the Ordinance

Provide supportive and critical comments regarding the SBC Groundwater Ordinance that will be used to bolster SBC support of CASGEM monitoring efforts.

Deliverable:

- Formal Report/Memo summarizing findings and recommendations

Progress and Performance Monitoring

MWA will hold bi-weekly conference calls and regular in-person meetings with the consultant to ensure tasks are being completed in accordance with the Project Schedule (see Attachment 7). In addition, several stakeholder coordination meetings will be held to identify an equitable distribution of responsibilities among CASGEM-reporting agencies for future monitoring and reporting.

SUMMARY OF MEETINGS				
Meeting Type	# of Meetings	Anticipated Staffing at Meetings		
		Principal	Proj. Mgr.	Proj. Engr.
Bi-Weekly Progress Calls	24	✓	✓	✓
Other Conference Calls	6		✓	✓
Meetings With MWA Staff	4	✓	✓	✓
Meetings With Stakeholders	4	✓	✓	

Environmental Compliance

MWA staff has determined this is not a "Project" under the California Environmental Quality Act (CEQA). No further environmental analysis is required.